

WHAT IS CLAIMED IS:

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1. Apparatus for controlling a patient injector system, said apparatus comprising:

means for selectably establishing a first phase of an injection protocol, said first phase comprising a flushing medium phase; and

means for selectably establishing a subsequent second phase of said protocol, said second phase comprising a contrast medium phase.

2. The apparatus of Claim 1, further comprising:

means for selectably establishing a subsequent third phase of said protocol, said third phase comprising a flushing medium phase.

3. The apparatus of Claim 1 wherein the means for selectably establishing a first phase comprises means for selectably establishing at least a quantity of a flushing medium.

4. The apparatus of Claim 1 wherein the means for selectably establishing a first phase comprises means for selectably establishing at least a quantity and a flowrate of a flushing medium.

5. The apparatus of Claim 1 wherein the means for selectably establishing a first phase comprises a touch screen.

6. A fluid injection apparatus comprising:

at least one drive mechanism; and

a control device operably associated with the at least one drive mechanism, said control device comprising means for selectably programming a first phase of an injection procedure as a flushing medium phase.

7. The apparatus of Claim 6 wherein said control device further comprises means for programming a second phase of the injection procedure, subsequent to the first phase of the injection procedure, as a contrast medium phase.

8. The apparatus of Claim 6 wherein said control device further comprises means for defining the first phase of the injection procedure by at least two injection parameters selected from fluid flow rate, fluid volume and injection duration.

9. The apparatus of Claim 6 wherein said control device further comprises means for defining each phase of an injection procedure by at least two injection parameters selected from fluid flow rate, fluid volume and injection duration.

10. The apparatus of Claim 6 wherein said control device further comprises means for programming a second phase of the injection procedure, subsequent to

the first phase of an injection procedure, as a flushing medium phase.

11. The apparatus of Claim 6, further comprising at least two fluid containers operably associated with the at least one drive mechanism.

12. The apparatus of Claim 11 wherein one fluid container contains a contrast medium and the other fluid container contains a flushing medium.

13. The apparatus of Claim 11 wherein at least one of the two fluid containers comprises a syringe.

14. A fluid injection apparatus comprising:

at least one drive mechanism; and

a control device operably associated with the at least one drive mechanism, said control device comprising means for selectably establishing a first phase of an injection procedure as a flushing medium phase.

15. The apparatus of Claim 14 wherein said control device further comprises means for establishing a second phase of the injection procedure, subsequent to the first phase of the injection procedure, as a contrast medium phase.

16. The apparatus of Claim 14 wherein said control device further comprises means for defining the first phase of the injection procedure by at least two

injection parameters selected from fluid flow rate, fluid volume and injection duration.

5 17. The apparatus of Claim 14 wherein said control device further comprises means for defining each phase of an injection procedure by at least two injection parameters selected from fluid flow rate, fluid volume and injection duration.

10 18. The apparatus of Claim 14 wherein said control device further comprises means for establishing a second phase of the injection procedure, subsequent to the first phase of an injection procedure, as a flushing medium phase.

15 19. The apparatus of Claim 14, further comprising at least two fluid containers operably associated with the at least one drive mechanism.

20 20. The apparatus of Claim 19 wherein one fluid container contains a contrast medium and the other fluid container contains a flushing medium.

21. The apparatus of Claim 19 wherein at least one of the two fluid containers comprises a syringe.

22. A fluid injection apparatus comprising:

at least one drive mechanism; and

25 a control device operably associated with the at least one drive mechanism, said control device comprising an arrangement for selectably programming a

first phase of an injection procedure as a flushing medium phase.

23. The apparatus of Claim 22 wherein the arrangement comprises a touch screen.

5           24. The apparatus of Claim 22 wherein said control device further comprises means for programming a second phase of the injection procedure, subsequent to the first phase of the injection procedure, as a contrast medium phase.

10           25. The apparatus of Claim 22 wherein said control device further comprises means for defining the first phase of the injection procedure by at least two injection parameters selected from fluid flow rate, fluid volume and injection duration.

15           26. The apparatus of Claim 22 wherein said control device further comprises means for defining each phase of an injection procedure by at least two injection parameters selected from fluid flow rate, fluid volume and injection duration.

20           27. The apparatus of Claim 22 wherein said control device further comprises means for programming a second phase of the injection procedure, subsequent to the first phase of an injection procedure, as a flushing medium phase.

25           28. The apparatus of Claim 22, further comprising at least two fluid containers operably associated with the at least one drive mechanism.

29. The apparatus of Claim 28 wherein one fluid container contains a contrast medium and the other fluid container contains a flushing medium.

5 30. The apparatus of Claim 28 wherein at least one of the two fluid containers comprises a syringe.

31. A method of programming an injection apparatus, comprising:

10 selectably programming a first phase of an injection procedure, the first phase comprising a contrast medium phase; and

subsequently, selectably programming a second phase of the injection procedure, the second phase comprising a KVO phase;

15 wherein the KVO phase is selectably programmed by selecting a flowrate and a volume.

32. The method of Claim 31, further comprising:

20 programming a third phase of the injection procedure, the third phase comprising one of at least a contrast medium phase and a flushing medium phase.

33. The method of Claim 31 wherein the KVO phase is selectably programmed by further selecting a duration.

25 34. A method of programming an injection apparatus, comprising:

selectably programming a first phase of an injection procedure, the first phase comprising a flushing medium phase;

5 wherein the flushing medium phase is selectably programmed by selecting a flowrate and a volume.

35. The method of Claim 34, further comprising:

10 programming a second phase of the injection procedure, the second phase comprising one of at least a contrast medium phase and a flushing medium phase.

36. The method of Claim 34 wherein the flushing medium phase is selectably programmed by further selecting a duration.

15 37. The apparatus of Claim 6 wherein the means for selectably programming a first phase comprises a touch screen.

38. The apparatus of Claim 14 wherein the means for selectably establishing a first phase comprises a touch screen.

20 39. A method of programming an injection apparatus, comprising:

selectably programming a first phase of an injection procedure, the first phase comprising a KVO phase;

wherein the KVO phase is selectably programmed by selecting a flowrate and a volume.

40. The method of Claim 39, further comprising:

5           programming a second phase of the injection procedure, the second phase comprising one of at least a contrast medium phase and a flushing medium phase.

41. The method of Claim 39 wherein the KVO phase is selectably programmed by further selecting a duration.

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FOOTNOTES